Developer Guide: Migrating to SAP Mobile SDK 2.3

SAP Mobile Platform 2.3

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Contents

Migrate Your Artifacts

(Audience: application developers) Migrate your applications to SAP® Mobile Platform 2.3 to take advantage of new features.

The upgrade to SAP Mobile Platform 2.3 is performed in place, which means you can continue to run 2.2 applications without migrating them. You might need to perform some migration tasks to take advantage of new features and system improvements. See *Best Practices for Migrating Applications* on page 1 for additional information.

After you install and upgrade your SAP Mobile Server instances, migrate your mobile business objects (MBOs), projects, and applications as needed. These instructions are for migrating client applications from SAP Mobile Platform 2.2 SP02 to 2.3.

Note: References to 2.2 and 2.3 include support packages; specific support packages are identified only if there is a change significant to a particular support package. SAP recommends you always install the latest support package available.

If you upgraded from a version earlier than 2.2 SP02, refer to *Developer Guide: Migrating to Sybase Mobile SDK 2.2 SP02* (cumulative for 2.2), and its updates, for application migration information: *http://infocenter.sybase.com/help/topic/com.sybase.infocenter.dc01857.0222/doc/html/mqu1352843142074.html*

For supporting information, see:

- *New Features*
- *Supported Hardware and Software*

Best Practices for Migrating Applications

Use information to formulate best practices for migrating applications.

When you upgrade to the latest version of SAP Mobile Platform, client applications continue to run without migrating them. In some cases, adjustments are required to ensure the application runs correctly; and in cases where the client application is based on mobile business objects, the project needs to be started in the Mobile Application Diagram to automatically trigger project migration steps. But overall, the client application continues to run and can synchronize with its enterprise information system. Any exceptions are noted in the documentation.

A client application is compiled code that is based on its data model, and consists of a binary piece, and an SAP Mobile Server piece. This enables the application to execute on devices and in the server. Over time, features are added and improvements made to the SDK and SAP Mobile Server. To take advantage of these improvements, you need to upgrade your server, or implement a more recent SDK version.

If you rely only on in-place migration, after multiple server upgrades your client application may cease to work efficiently or at all. A best practice is to recompile your client application code after a major release, so that the binary and SAP Mobile Server versions are the latest. One strategy is to wait several weeks to ensure the upgraded environment is stable, and then recompile.

Migrate Agentry Applications

Procedures are required to migrate current Agentry applications to SAP Mobile Platform 2.3.

Migrating From Agentry Mobile Platform to SAP Mobile Platform

Prerequisites

The following items must be addressed prior to performing this procedure:

- The SAP Mobile Platform 2.3 is assumed to be installed and properly configured.
- If implementing an SAP Mobile Platform clustered environment, this should be established, and the Agentry application defined in each node, prior to beginning the migration process. The migration should then be performed with deployment to the primary node in the cluster.
- For mobile applications which make use of a Java system connection, the Java Runtime Environment (JRE) should be installed to the host system for the SAP Mobile Platform prior to performing this procedure. Note that installation of the JRE requires the update of the system's PATH environment variable with the location of the `bin` and `lib` directories of the JRE installation.
- If the mobile application is one provided by SAP built on Agentry 6.0.x, review and have available the *Implementation and Administration* guide for the application being migrated. This manual can be found on the SAP Marketplace page for the mobile application. Items related to server configuration and environment setup, as well as system requirements, are applicable to the migration and implementation of the mobile application in SAP Mobile Platform 2.3.
- The person performing this procedure must have detailed, development-level knowledge concerning the application to be upgraded from Agentry Mobile Platform 6.0.x. This includes the following items, though this list may not be comprehensive and the requirements will vary from one application to the next:
  - Java resources, such as application specific `.jar` files
  - Application-specific configuration files

    - Application-specific resource files such as dynamic link libraries (DLL's)
    - Administration scripts typically stored within the `sql` directory of the Agentry Server
- The SAP Mobile SDK 2.3 should already have been retrieved and its contents extracted.
- The person performing this procedure must have access to and the proper permissions for the SAP Control Center to allow for the import of ZIP archives into Agentry Applications and to start and stop services within the SAP Mobile Platform.

Task

The purpose of this procedure is to upgrade or migrate a mobile application built and deployed on Agentry Mobile Platform 6.0.x, a.k.a. "Agentry Standalone" to the SAP Mobile Platform 2.3. This process can be performed to upgrade a current production implementation, or to upgrade a new implementation using an out-of-the-box mobile application provided by SAP and built on Agentry Mobile platform 6.0.x. Those familiar with the process for upgrading mobile applications from one version of Agentry to another will find this procedure to be similar, though with some key differences in the execution.

From a high level, this procedure accomplishes the following main tasks in order to migrate the mobile application:

- All application-specific resources stored on the Agentry 6.0.x Server are bundled together in a ZIP archive, with the exception of the business logic itself
- The business logic is imported from the Agentry 6.0.x Server as a new project in the Eclipse workspace for the Agentry Editor for SAP Mobile Platform 2.3. This upgrades the business logic to the latest format.
- The application is published to the Agentry Server running with the SAP Mobile Platform 2.3. This updates the configuration sections for the application related to the defined system connections.
- The ZIP archive containing the non-Agentry application-specific resources is imported using the SAP Control Center into the Agentry Server for the application within the SAP Mobile Platform 2.3.

The end result of this process is a merging of the new Agentry Server resources within the SAP Mobile Platform with the mobile application-specific resources as implemented in the Agentry 6.0.x Server. The following instructions provide the steps necessary to accomplish this migration.

This procedure is applicable to any application built and deployed on Agentry Mobile Platform 6.0.x, whether it be a product from SAP, or a custom application built by the customer.

1. If the mobile application to be migrated is not yet installed in the implementation environment, the server component for the mobile application should be installed to a separate, but accessible location in order to provide the mobile application business logic and application-specific resources. This must be a production server installation of the mobile application.

2. Install the Agentry Server **for production** as provided in the SAP Mobile SDK 2.3 according to the instructions provided in the *Install SAP Mobile SDK 2.3* guide.
3. Install and configure the Agentry Editor for SAP Mobile Platform 2.3 as provided in the SAP Mobile SDK 2.3 according to the instructions provided in the *Install SAP Mobile SDK 2.3* guide.
4. Within the Agentry Editor for SAP Mobile Platform 2.3, import the application from the Agentry 6.0.x Server, creating a new Agentry application project within the Eclipse workspace.
5. Publish the application project from the Agentry Editor to the Agentry Server installed from the SAP Mobile SDK 2.3.
6. Create a ZIP archive, preserving the directory structure, containing the following items found in the Agentry 6.0.x Server installation:
   - Application-specific configuration files, which **does not include** configuration files provided with standard Agentry Server installations
   - Application-specific Java resources, including `.jar` files, but **do not include** the `Agentry-v5.jar` or `Agentry-v4.jar` (if present) files found in the Java folder of the Server's installation. Any other resources found here should be included as they are likely to be application-specific.
   - Application-specific DLL files, but **do not include** DLL's provided with a standard Agentry Server installation.
   - The contents of the `sql` directory under the Agentry Server's installation location. All files in this directory can be safely added to the ZIP archive.
   - Any other files know to be a part of the mobile application but not provided with a standard Agentry Server installation.
7. Add to the ZIP archive the folder `Application` found in the Agentry Server installation from the SAP Mobile SDK 2.3, as well as the `Agentry.ini` configuration file.
8. Using the SAP Control Center, define a new Agentry application according to the procedure found in the *SAP Control Center for SAP Mobile Platform* guide, in the section *Creating Agentry Application Definition*.
9. Within the SAP Control Center, stop the Agentry Server instance just created if it is currently running.
10. Import the ZIP archive containing the application-specific resources and the `Application` folder according to the procedure in the *SAP Control Center for SAP Mobile Platform*, in the section *Deploying Agentry Application Files to an Exiting Application*.
11. Start the Agentry Server instance for the application using the SAP Control Center.
12. Configure the Agentry Server within the SAP Mobile Platform using the SAP Control Center, including system connections, client-server communications, and other standard configuration tasks. For applications provided by SAP see the *Implementation and Administration* guide for the product for information on configuring the Server for the application. Note that instructions may reference the Agentry Administration Client as

provided with Agentry 6.0.x and prior releases. The SAP control Center is now used to perform the configuration, but the appropriate settings and options are the same.

With the completion of this procedure, the mobile application originally built and deployed on the Agentry Mobile Platform version 6.0.x has been upgraded and migrated to the SAP Mobile Platform 2.3. Application-specific resources have been moved to the Agentry Server instance within the SAP Mobile Platform and the business logic for the application has been upgrade and imported.

Next

The next steps should be to thoroughly test the updated application with standard testing procedures, including end-to-end synchronization tests involving the Agentry Clients.

Migrate Mobile Business Objects

You must complete the steps below to migrate 2.2 SP02 mobile business objects (MBOs) to SAP Mobile Platform version 2.3.

If you are migrating from a version earlier than 2.2 SP02, see *Developer Guide: Migrating to SAP Mobile SDK 2.2 SP02* on Product Documentation, the *Migrate Mobile Business Object* section: *http://infocenter.sybase.com/help/topic/com.sybase.infocenter.dc01857.0222/doc/html/mqu1352843142355.html*

1. From Eclipse, point to the existing MBO project's workspace.
2. Ensure connection profiles referenced by the MBO projects are in place or imported, and enterprise information system (EIS) data sources associated with those connection profiles can be connected.
3. Once SAP Mobile WorkSpace is started, open the Mobile Application Diagram. This automatically triggers the Mobile Application project migration.

Migrate Object API Applications

No steps are required to migrate 2.2 SP02 applications to SAP Mobile Platform version 2.3.

If you are migrating from a version earlier than 2.2 SP02, see *Developer Guide: Migrating to Sybase Mobile SDK 2.2 SP02* on Product Documentation, the *Migrate Object API Applications* section: *http://infocenter.sybase.com/help/topic/com.sybase.infocenter.dc01857.0222/doc/html/mqu1352843141277.html*

Native Client Version Compatibility Matrix

Compatibility between versions of the client object API and SAP Mobile Server (Unwired Server).

Native Client Object API and SAP Mobile Server Version Compatibility

	Unwired Server 2.1	Unwired Server 2.1 ESD #1	Unwired Server 2.1 ESD #2	Unwired Server 2.1 ESD #3	Unwired Server 2.2 SP02	SAP Mobile Server 2.3
Native Client Object API 2.1	Yes	Yes	Yes	Yes	Yes	Yes
Native Client Object API 2.1 ESD #1	No	Yes	Yes	Yes	Yes	Yes
Native Client Object API 2.1 ESD #2	No	No	Yes	Yes	Yes	Yes
Native Client Object API 2.1 ESD #3	No	No	No	Yes	Yes	Yes
Native Client Object API 2.2 SP02	No	No	No	No	Yes	Yes
Native Client Object API 2.3	No	No	No	No	No	Yes

Note:

- Yes – the client application built in this SDK version is supported in the server version (minor adjustments may be necessary to ensure the application runs correctly - see the Migration details, if any).

- No – the client application built in this SDK version is not supported in the server version.
- Server version – refers to the server version to which an original package is migrated, and not a newly deployed package. For the example of "Native Client Object API 2.1" vs. "SAP Mobile Server 2.3", the application package that runs on "SAP Mobile Server 2.3" may not always be newly created and deployed from MobileSDK2.3; it may have been originally created from MobileSDK2.1 and deployed to 2.1 server, and then migrated to 2.3 server.

Android

No migration changes are required for Android Object API applications.

BlackBerry

No migration changes are required for BlackBerry Object API applications.

iOS

No migration changes are required for iOS Object API applications.

Windows and Windows Mobile

No migration changes are required for Windows and Windows Mobile Object API applications.

Migrate Hybrid Web Container Projects

No steps are required to migrate 2.2 SP02 Hybrid Web Container projects to SAP Mobile Platform version 2.3.

If you are migrating from a version earlier than 2.2 SP02, see *Developer Guide: Migrating to Sybase Mobile SDK 2.2 SP02* on Product Documentation, the *Migrate Hybrid Web Container Projects* section: *http://infocenter.sybase.com/help/topic/com.sybase.infocenter.dc01857.0222/doc/html/mqu1352929931447.html*

Hybrid Web Container Compatibility Matrix

Compatibility between versions of the Hybrid Web Container and server, and Hybrid Web Container and Hybrid App applications.

Hybrid Web Container and Unwired Server/SAP Mobile ServerCompatibility

Client/ Hybrid Web Container	Unwired Server 2.1	Unwired Server 2.1 ESD #2	Unwired Server 2.1 ESD #3	Unwired Server 2.2 SP02	SAP Mobile Server 2.3
Hybrid Web Container 2.1	Yes	Yes	Yes	Yes	Yes
Hybrid Web Container 2.1 ESD #2	No	Yes	Yes	Yes	Yes
Hybrid Web Container 2.1 ESD #3	No	Yes	Yes	Yes	Yes
Hybrid Web Container 2.2 SP02	No	Yes	Yes	Yes	Yes
Hybrid Web Container 2.3	No	Yes	Yes	Yes	Yes

There was no 2.1 ESD #1 Hybrid Web Container; 2.1 ESD #1 shipped with 2.1 Mobile Workflow clients.

Note:

- Yes – the client application built in this SDK version is supported in the server version (minor adjustments may be necessary to ensure the application runs correctly - see the Migration details, if any).
- No – the client application built in this SDK version is not supported in the server version.
- Server version – refers to the server version to which the original package is migrated, and not the newly deployed package.

Hybrid Web Container and Hybrid App Compatibility

Client/ Hybrid Web Container	Hybrid App 2.1	Hybrid App 2.1 ESD #2	Hybrid App 2.1 ESD #3	Hybrid App 2.2 SP02	Hybrid App 2.3
Hybrid Web Container 2.1	Yes	No	No	No	No
Hybrid Web Container 2.1 ESD #2	Yes	Yes	No	No	No
Hybrid Web Container 2.1 ESD #3	Yes	Yes	Yes	No	No
Hybrid Web Container 2.2 SP02	Yes	Yes	Yes	Yes	No
Hybrid Web Container 2.3	Yes	Yes	Yes	Yes	Yes

There was no 2.1 ESD #1 Hybrid Web Container; 2.1 ESD #1 shipped with 2.1 Mobile Workflow clients.

Note:

- Yes – the client application built in this SDK version is supported in the server version (minor adjustments may be necessary to ensure the application runs correctly - see the Migration details, if any).
- No – the client application built in this SDK version is not supported in the server version.
- Server version – refers to the server version to which the original package is migrated, and not the newly deployed package.

Android

No migration changes are required for Android Hybrid Apps.

Hybrid Web Container Migration Paths for Android

Supported Hybrid Web Container (HWC) migration paths on Android.

Table 1. Android Migration Paths

	2.1 HWC	2.1 ESD #2 HWC	2.1 ESD #3 HWC	2.2 SP02 HWC	2.3 HWC
2.1 HWC	N/A	In-place upgrade	Coexist	Coexist	Coexist
2.1 ESD #2 HWC	N/A	N/A	Coexist	Coexist	Coexist
2.1 ESD #3 HWC	N/A	N/A	N/A	In-place upgrade	In-place upgrade
2.2 SP02 HWC	N/A	N/A	N/A	N/A	In-place upgrade
2.3 HWC	N/A	N/A	N/A	N/A	N/A

Note: There was no 2.0 or 2.1 ESD #1 Android Hybrid Web Container.

- N/A – not applicable.
- Coexist – the application is not upgraded; multiple versions of the application can coexist.
- In-place upgrade – the application is upgraded to the new version (you must modify the application to add new features).

BlackBerry

No migration changes are required for BlackBerry Hybrid Apps.

Hybrid Web Container Migration Paths for BlackBerry

Supported Hybrid Web Container (HWC) migration paths on BlackBerry.

Table 2. BlackBerry Migration Paths

	2.1 HWC	2.1 ESD #2 HWC	2.1 ESD #3 HWC	2.2 SP02 HWC	2.3 HWC
2.1 HWC	N/A	In-place upgrade	In-place upgrade	Coexist	Coexist

	2.1 HWC	2.1 ESD #2 HWC	2.1 ESD #3 HWC	2.2 SP02 HWC	2.3 HWC
2.1 ESD #2 HWC	N/A	N/A	In-place upgrade	Coexist	Coexist
2.1 ESD #3 HWC	N/A	N/A	N/A	Coexist	Coexist
2.2 SP02 HWC	N/A	N/A	N/A	N/A	In-place upgrade
2.3 HWC	N/A	N/A	N/A	N/A	N/A

Note: There was no 2.0 ESD #1 or 2.1 ESD #1 for BlackBerry Hybrid Web Container.

- N/A – not applicable.
- Coexist – the application is not upgraded; multiple versions of the application can coexist.
- In-place upgrade – the application is upgraded to the new version (you must modify the application to add new features).

iOS

No migration changes are required for iOS Hybrid Apps.

Hybrid Web Container Migration Paths for iOS

Supported Hybrid Web Container migration paths on iOS, including paths for applications downloaded from the Apple App Store and those built from source code.

iOS Migration Paths (Applications Downloaded from the Apple App Store)
This matrix identifies the supported Hybrid Web Container migration or the iOS container downloaded from the Apple App store.

	2.1 HWC	2.1 ESD #2 HWC	2.1 ESD #3 HWC	2.2 SP02 HWC	2.3 HWC
2.1 HWC	N/A	Coexist	Coexist	Coexist	Coexist
2.1 ESD #2 HWC	N/A	N/A	In-place upgrade	In-place upgrade	In-place upgrade
2.1 ESD #3 HWC	N/A	N/A	N/A	In-place upgrade	In-place upgrade

	2.1 HWC	2.1 ESD #2 HWC	2.1 ESD #3 HWC	2.2 SP02 HWC	2.3 HWC
2.2 SP02 HWC	N/A	N/A	N/A	N/A	In-place upgrade
2.3 HWC	N/A	N/A	N/A	N/A	N/A

Note: There was no 2.1 ESD #1 Hybrid Web Container.

- N/A – not applicable.
- Coexist – the application is not upgraded; multiple versions of the application can coexist.
- In-place upgrade – the application is upgraded to the new version (you must modify the application to add new features).

iOS Migration Paths (Applications Built from Source Code)

This matrix identifies the supported Hybrid Web Container migration for the iOS container that one builds from the supplied source code while keeping the same "bundle ID" between versions.

	2.1 HWC	2.1 ESD #2 HWC	2.1 ESD #3 HWC	2.2 SP02 HWC	2.3 HWC
2.1 HWC	N/A	In-place upgrade	In-place upgrade	In-place upgrade	In-place upgrade
2.1 ESD2 HWC	N/A	N/A	In-place upgrade	In-place upgrade	In-place upgrade
2.1 ESD3 HWC	N/A	N/A	N/A	In-place upgrade	In-place upgrade
2.2 SP02 HWC	N/A	N/A	N/A	N/A	In-place upgrade
2.3 HWC	N/A	N/A	N/A	N/A	N/A

Note: There was no 2.1 ESD #1 Hybrid Web Container.

Windows Mobile

No migration changes are required for Windows Mobile Hybrid Apps.

Hybrid Web Container Migration Paths for Windows Mobile

Supported Hybrid Web Container (HWC) migration paths on Windows Mobile.

Table 3. Windows Mobile Migration Paths

	2.1 HWC	2.1 ESD #2 HWC	2.2 SP02 HWC	2.3 HWC
2.1 HWC	N/A	In-place upgrade	Coexist	Coexist
2.1 ESD #2 HWC	N/A	N/A	Coexist	Coexist
2.2 SP02 HWC	N/A	N/A	N/A	In-place upgrade
2.3 HWC	N/A	N/A	N/A	N/A

Note: There was no new 2.1 ESD #1 or 2.1 ESD #3 for Windows Mobile Hybrid Web Container; 2.1 ESD #3 shipped with 2.1 ESD #2 Windows Mobile clients.

- N/A – not applicable.
- Coexist – the application is not upgraded; multiple versions of the application can coexist.
- In-place upgrade – the application is upgraded to the new version (you must modify the application to add new features).

Migrate OData Applications

No migration changes are required for OData applications; however you may need to perform migration steps to take advantage of new features.

If you are migrating from a version earlier than 2.2 SP02, see *Developer Guide: Migrating to Sybase Mobile SDK 2.2 SP02* on Product Documentation, the *Migrate OData Applications* section: *http://infocenter.sybase.com/help/topic/com.sybase.infocenter.dc01857.0222/doc/html/mqu1352854260620.html*

OData Client Compatibility Matrix

Compatibility between versions of OData clients and SAP Mobile Server (Unwired Server).

OData SDK Client and Unwired Server/SAP Mobile Server Version Compatibility

OData SDK Client	Unwired Server 2.1	Unwired Server 2.1 ESD #1	Unwired Server 2.1 ESD #2	Unwired Server 2.1 ESD #3	Unwired Server 2.2 SP02	SAP Mobile Server 2.3
OData SDK Client 2.1	Yes	Yes	Yes	Yes	Yes	Yes
OData SDK Client 2.1 ESD #1	No	Yes	Yes	Yes	Yes	Yes
OData SDK Client 2.1 ESD #2	No	Yes	Yes	Yes	Yes	Yes
OData SDK Client 2.1 ESD #3	No	Yes	Yes	Yes	Yes	Yes
OData SDK Client 2.2 SP02	No	Yes	Yes	Yes	Yes	Yes
OData SDK Client 2.3	No	Yes	Yes	Yes	Yes	Yes

Note:

- Yes – the client application built in this SDK version is supported in the server version (minor adjustments may be necessary to ensure the application runs correctly - see the Migration details, if any).
- No – the client application built in this SDK version is not supported in the server version.
- Server version – refers to the server version to which the original package is migrated, and not the newly deployed package.

Android

No migration changes are required for OData Android applications.

BlackBerry

No migration changes are required for OData BlackBerry applications.

iOS

No migration changes are required for OData iOS applications.

Migrate REST API Applications

No migration changes are required for REST API applications.

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